

REMARKS

Claims 1 – 48 are pending in this broadening reissue application.

The Applicants have added new claims 23 - 48 to broaden the scope of protection for their invention. The Applicants have added no new matter to the reissue application.

In an Office Action mailed 30 September 2004, the Examiner withdrew claims 23-38 from consideration for being drawn to a non-elected invention. The Examiner stated that newly submitted claims 23-38 are directed to an invention that is independent or distinct from the invention originally claimed because these claims are method claims and the patent claims are directed to a product.

Applicants respectfully traverse the restriction requirement on the grounds that the Examiner can search and examine the entire application without serious burden. According to MPEP § 803, if the Examiner can search and examine the application without serious burden, then he/she must examine the application on the merits even though it includes claims to independent or distinct inventions. As discussed below, because claims 23-38 recite similar subject matter, the Examiner can perform a single search and examination that will cover all of the claims. Consequently, the Examiner can search and examine the application without serious burden, and, therefore, must examine all of the claims together.

More specifically, amended claim 23 recites:

A method, comprising:
forming a first layer of inorganic spin-on glass on a substrate;
depositing a first dielectric on the first layer;
forming a second layer of inorganic spin-on glass on the first dielectric; and
planarizing the second layer of spin-on glass.

Amended claim 39 recites:

A semiconductor structure, comprising:
a substrate;

- a first layer of inorganic spin-on glass disposed on the substrate;
- a first dielectric disposed on the first layer; and
- a planarized second layer of inorganic spin-on glass disposed on the first dielectric.

Because claims 23 and 39 respectively recite a method and a structure generated by that method the Examiner can perform a single search for all pending claims 1-48. Furthermore, because these claims recite related subject matter, examination of these claims will involve similar analyses. Therefore, it is only slightly more burdensome for the Examiner to search and examine claims 1-48 than it would be for him to search and examine what the Examiner has termed the constructively elected claims 1-22 and 39-48. Consequently, because there is no serious burden on the Examiner to search and examine all of the claims 1-48, the restriction is improper. Therefore, the Examiner is accordingly requested to withdraw the restriction and examine all of the claims.

In the Office Action, the Examiner allowed original claims 1-22 and rejected newly added claims 39-48 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,110,763 to Matsumoto ("Matsumoto").

Amended claim 39 recites a semiconductor structure including a substrate, a first layer of inorganic spin-on glass disposed on the substrate, a first dielectric disposed on the first layer, and planarized second layer of inorganic spin-on glass disposed on the first dielectric. Figure 2B illustrates a structure being formed according to one embodiment of the present invention and including a first inorganic SOG layer 1 on which a low temperature oxide layer 3 is formed. A second inorganic SOG layer 2 is formed on the low temperature oxide layer 3. The structure prevents unwanted cracks that can occur when forming structures including inorganic SOG layers.

As shown in Figure 3D of Matsumoto, this patent discloses a structure including an organic layer of spin on glass 41 on which a second intermediate silicon oxide film 46 is deposited. An inorganic glass film 47 is formed on the intermediate silicon oxide film 46. The Matsumoto patent notes that internal stress in organic layers of spin-on glass is negligible in comparison to inorganic layers of spin-on glass. See Column 4, lines 54-56. Both the inorganic and organic spin-on glass layers are utilized in Matsumoto to prevent cracking during formation of the desired semiconductor structure.

In contrast to Matsumoto, amended claim 39 recites two inorganic spin-on glass layers with a dielectric layer disposed therebetween. The present invention prevents cracking utilizing only inorganic spin-on glass layers and does not require organic spin-on glass layers, which obviates the corrosion problems presented by such organic layers. Accordingly, the combination of elements recited in amended claim 39 is allowable. Claims 40-48 all depend from claim 39 and are therefore allowable for at least the same reasons as claim 39.

Amended claim 23 recites a method including forming a first layer of inorganic spin-on glass on a substrate, depositing a first dielectric on the first layer, forming a second layer of inorganic spin-on glass on the first dielectric, and planarizing the second layer of spin-on glass. As previously discussed, Matsumoto notes that internal stress in organic layers of spin-on glass is negligible in comparison to inorganic layers of spin-on glass. See Column 4, lines 54-56. The '330 patent is directed to preventing cracking in inorganic spin-on glass layers and does not use both the inorganic and organic spin-on glass layers to prevent such cracking. Therefore, the combination of elements in amended claim 23 is allowable. Dependent claims 24-38 are allowable for at least the same reasons as claim 23.

CONCLUSION

In view of the foregoing, the claims are in condition for allowance. Therefore, the issuance of a formal Notice of Allowance at an early date is respectfully requested.

If after considering this response the Examiner does not allow all of the claims, the Applicants' attorney requests the Examiner to phone him at (425) 455-5575 and schedule a telephone interview.

In the event additional fees are due as a result of this amendment, you are hereby authorized to charge such payment to Deposit Account No. 07-1897.

Dated this 31st day of January, 2005.

Respectfully submitted,

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